8.15 Water Resources

This section provides a discussion of the existing water resources in the vicinity of the WCEP site and assesses the potential effects of project construction and operations on water resources. Specifically, this chapter discusses the WCEP and its potential effects in the following areas:

- Use of recycled water for cooling and process water
- Water supply and quality
- Disposal of waste water
- Compliance with state water policies
- Stormwater discharge
- Flooding

Section 8.15.1 discusses the existing hydrologic environment. Potential environmental effects of the WCEP construction and operation on water resources are assessed in Section 8.15.2. Section 8.15.3 discusses proposed mitigation measures that will prevent significant impacts. A discussion of cumulative project impacts is presented in Section 8.15.4. Section 8.15.5 presents applicable LORS related to water resources. Section 8.15.6 describes permits that relate to water resources, lists contacts with relevant regulatory agencies, and presents a schedule for obtaining permits. References cited are listed in Section 8.15.7.

8.15.1 Affected Environment

8.15.1.1 Water Features, Rainfall, and Drainage

The WCEP site is located in the City of Industry in Los Angeles County, approximately 12 miles east of the City of Los Angeles. Annual precipitation in Los Angeles County averages about 15 inches, and can vary significantly depending upon local conditions. Under the modified Köppen classification system, Los Angeles climate is categorized as Mediterranean, with dry summers and rainy winters with a relatively modest transition in temperature (National Oceanic and Atmospheric Administration, 2005).

The project is located within the San Gabriel River Watershed (SGRW). The San Gabriel River receives drainage from approximately 689 square miles. The main channel is approximately 58 miles long, and empties into the Pacific Ocean at the Los Angeles/ Orange County border. Approximately 75 percent of the SGRW is urbanized, with the remaining portion lying in the Angeles National Forest. The major surface water feature in the project vicinity is San Jose Creek, which is an unlined channel located adjacent to the project site. San Jose Creek drains into the San Gabriel River approximately 5 miles downstream of the WCEP site. The San Gabriel River and San Jose Creek both receive discharge water from wastewater treatment plants and stormwater systems within the surrounding areas (LARWQCB, 2000).

Beneficial uses, as defined by the Los Angeles Regional Water Quality Control Board's (LARWQCB) Water Quality Control Plan for the Los Angeles Region (Basin Plan) for the two waterways are listed in Table 8.15-1.

TABLE 8.15-1
Beneficial Uses of Project Area Water Ways

Waterways	MUN	IND	PROC	AGR	GWR	REC1	REC2	WARM	COLD	WILD	RARE
San Gabriel River (Main Stem)	E	E	E	E	E	E	E	E	E	E	E
San Jose Creek	P				I	Pm	I	I		E	

Definitions:

MUN Uses of water for community, military, or individual water supply systems, including, but not limited to, drinking water supply.

IND Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization.

PROC Uses of water for industrial activities that depend primarily on water quality.

AGR Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

GWR Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance or water quality, or halting of saltwater intrusion into freshwater aquifers.

REC1 Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

REC2 Uses of water for recreational activities involving proximity to water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

WARM Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

COLD Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

WILD Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

RARE Uses of water that support habitats necessary, at the least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

E = Existing beneficial use
P = Potential beneficial use
I = Intermittent beneficial use
m = Access prohibited by Los Angeles County Department of Public Works (DPW) in concrete-channelized areas.

Source: LARWQCB, 1994

8.15.1.2 Groundwater

Groundwater underlying the project area is part of the 177,000-acre Central Subbasin of the Los Angeles Coastal Plain groundwater basin, commonly called the Central Basin (Figure 8.15-1). The Central Basin is bounded on the north by a surface divide called the La Brea high; on the northeast and east by Tertiary rocks of the Elysian, Repetto, Merced, and Puente Hills; on the southeast by Coyote Creek and the Newport Inglewood fault system; and on the southwest by the Newport Inglewood uplift.

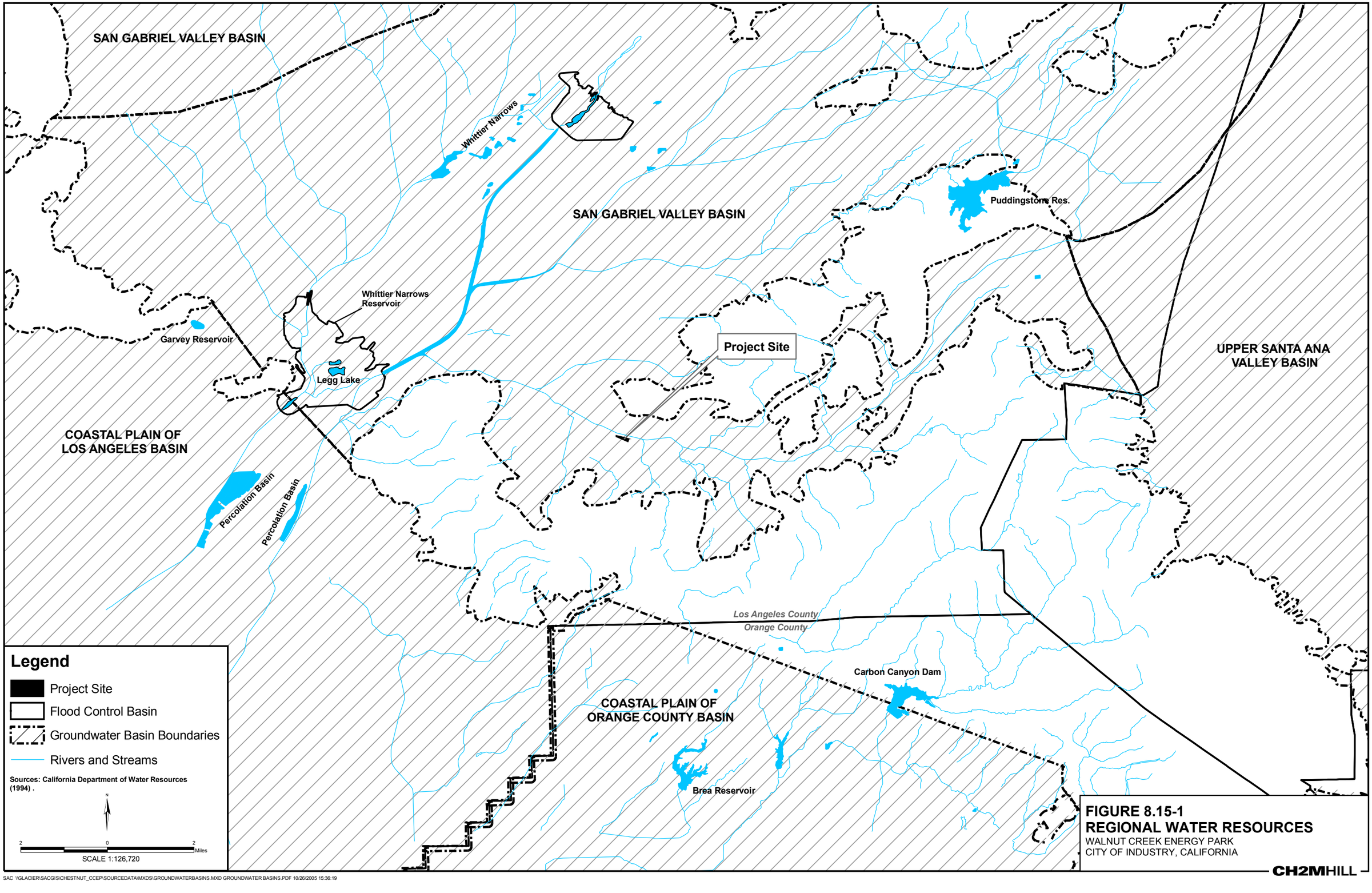

FIGURE 8.15-1
REGIONAL WATER RESOURCES
WALNUT CREEK ENERGY PARK
CITY OF INDUSTRY, CALIFORNIA

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Groundwater occurs in Holocene and Pleistocene sediments at relatively shallow depths. The Montebello forebay extends southward from the Whittier Narrows where the San Gabriel River encounters the Central Basin and is the most important area of recharge in the subbasin (California Department of Water Resources [DWR], 2004). The main productive freshwater-bearing sediments are contained within Holocene alluvium and the Pleistocene Lakewood and San Pedro Formations (DWR, 1961 as cited by DWR, 2004).

Pumping has lowered the water level in the Central Basin. Groundwater enters the subbasin through surface and subsurface flow and by direct percolation of precipitation, stream flow (from the Whittier Narrows and San Gabriel River), and applied water. Historical basin water levels varied over a range from 5 to 25 feet; however, recent measurements have shown basin water levels in the upper portion of their historical range (approximately 5 to 10 feet). Urban extractions for the subbasin were 204,335 acre-feet in 1998 (DWR 1999, as cited by DWR, 2004).

8.15.1.3 Flooding Potential

The entire City of Industry, including the project site, is currently classified as flood class "D" by the Federal Emergency Management Agency (FEMA, 2005) (Figure 8.15-2). Zone "D" is considered a moderate, minimal hazard area. This zoning designation is given to areas where the flood hazard is undetermined, and usually for sparsely populated areas (FEMA, 2005a).

8.15.2 Environmental Consequences

Project effects on water resources can be evaluated relative to significance criteria derived from the CEQA Appendix G checklist. Under CEQA, the project is considered to have a potentially significant effect on water resources if it would:

- Substantially alter the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner which will result in substantial erosion or siltation on- or offsite, or in flooding on- or offsite.
- Create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff.
- Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted).
- Place within a 100-year flood hazard area structures that will impede or redirect flood flows.
- Cause inundation by seiche, tsunami, or mudflow.

8.15.2.1 Water Supply

This section characterizes the sources and quality of water needed for power generation and other operations at WCEP. Average and maximum daily and annual water demand are provided in Table 8.15-2.

8.15.2.1.1 Process Water

The Rowland Water District will provide the industrial process water supply for the WCEP via a 12-inch reclaimed water supply pipeline located in Bixby Drive adjacent to the project site. The source of the reclaimed water is the San Jose Creek Wastewater Reclamation Plant, operated by the County Sanitation Districts of Los Angeles (LACSD).

The reclaimed water supply will be treated with a 90 minute contact time using sodium hypochlorite solution and pumped to a recycled water storage tank. This disinfection process will ensure that the reclaimed water meets the Title 22 criteria for recycled water.

TABLE 8.15-2
Daily and Annual Water Usage Estimates for WCEP Operations

		Daily Use (gpm[a])		Annual Use (ac-ft/yr[b])
Water Use	**Water Source**	**Average**	**Maximum**	**Average [c]**
Process water (reclaimed)	Rowland Water District	1,460	1,528	771
Potable water	Rowland Water District	3	8	1.2

[a] gpm = gallons per minute

[b] ac-ft/yr = acre-feet per year

[c] Average Annual Use is equal to the average daily water use [averaged over all days in a year on which the plant is operating] multiplied by the number of hours the plant would operate per year under the base case operating scenario. See Chapter 2 for a full description of the operating parameters.

The Title 22 recycled water will then be divided into supply for the cooling towers and supply for NO_x suppression injection and compressor evaporative cooling. Cooling water treatment may require the addition of chemicals such as a pH control agent (acid or caustic), a mineral scale dispersant (i.e., polyacrylate polymer), a corrosion inhibitor (phosphate based), and a biocide (hypochlorite or equivalent). The water to be used for NO_x suppression injection and compressor evaporative cooling will be further treated, beginning with a reverse osmosis system followed by an electrodeionization system.

8.15.2.1.2 Alternative Cooling Water Sources

The California State Water Resources Control Board (SWRCB) Policy 75-58 specifies that to protect water quality and quantity, water rights applications for cooling water for power plants can only be approved if other sources of water are not feasible. This resolution applies to the use of inland surface waters for cooling purposes. Since the project proposes to use recycled water for cooling water and is not applying for new water rights, Policy 75-58 is not applicable to this project.

8.15.2.1.3 Potable Water Use

Potable water is supplied to the City of Industry by the following sources: San Gabriel Valley Water, Suburban Water Systems, Rowland Water District, La Puente Valley Water District, City of Industry Water Works, and Walnut Valley Water District. Potable water for the WCEP will be served by the Rowland Water District via a 12-inch water main located in Bixby Drive adjacent to the project site. The WCEP will use potable water for domestic uses. Projected demand for potable water uses at the WCEP is approximately 4,320 gallons per day. Current and projected water supplies are adequate to meet this *de minimus* demand

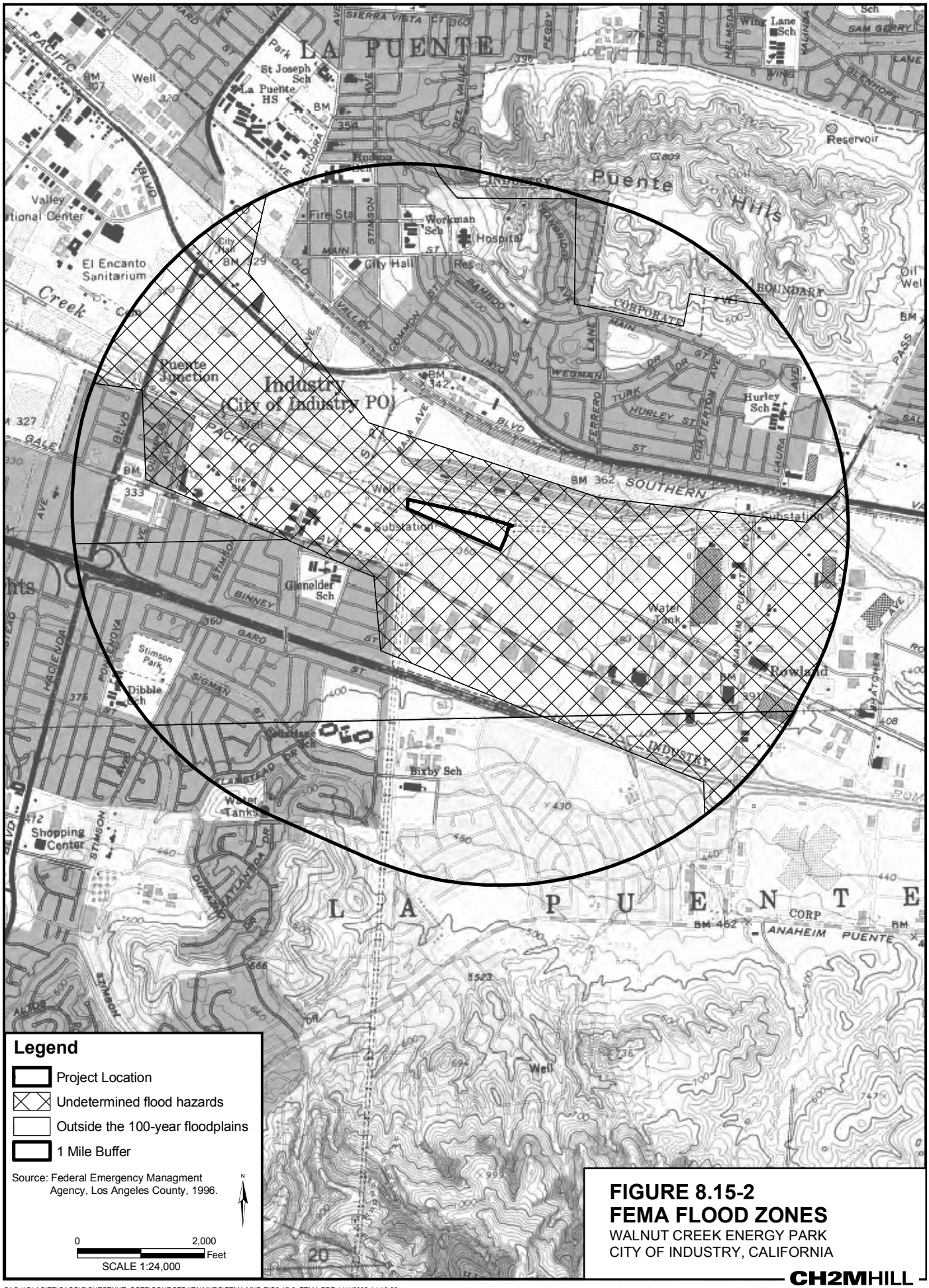

FIGURE 8.15-2
FEMA FLOOD ZONES
WALNUT CREEK ENERGY PARK
CITY OF INDUSTRY, CALIFORNIA

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increase. Fire water will be supplied by the Rowland Water District through their 10-inch-diameter dedicated fire water system, connection with which is available on site.

During construction of the project, water will be required primarily for dust suppression. Because of the short duration of construction activities and the relatively limited water requirements (less than 200 gpm for 1 hour for dust control and soil compaction, at peak use) of the construction phase of the project, no significant adverse impacts to water supply are expected to result. Potential water supply impacts due to construction will be limited to surface water runoff during excavation and construction of these elements of the infrastructure. Such construction impacts are small and can be controlled through implementing a Storm Water Pollution Prevention Plan and associated best management practices and proper housekeeping at the construction site. Estimates of usage rates are provided as follows:

- Average daily: 50 gpm x 4 hours = 12,000 gallons per day (gpd) (based on size of site)
- Maximum Daily: 200 gpm x 10 hrs = 0.12 mgd (conservatively high estimate)
- Average annual: 180 days x 12,000 gpd = 2.16 mgy
- Maximum annual: Same as above

8.15.2.2 Wastewater Discharges and Disposal

This section characterizes the volume and quality of wastewater that would be generated by the WCEP and method of disposal. Estimated daily and annual wastewater discharge rates are provided in Table 8.15-3 for both maximum and daily operations

TABLE 8.15-3
Operational Wastewater Discharges from WCEP

Waste Discharge Stream	Discharge Location	Daily Discharge (gpm[a])		Annual Discharge (MG/yr[b])
		Average	Maximum	Average [c]
Plant wastewater sump (discharge from process and cooling water, backwash water from ultra filters, and reject from reverse osmosis unit)	LACSD sanitary sewer system	185	196	34.0
Domestic wastewater	LACSD sanitary sewer system	1	2	0.01

[a] gpm = gallons per minute

[b] MG/yr = million gallons per year

[c] Average Annual Use is equal to the average daily water use [averaged over all days in a year on which the plant is operating] multiplied by the number of hours the plant would operate per year under the base case operating scenario. See Chapter 2 for a full description of the operating parameters.

8.15.2.2.1 Cooling Tower Blowdown

Circulating (or cooling) water system blowdown will consist of recycled water that has been concentrated at approximately 6 cycles of concentration and residues of the chemicals added to the circulating water. These chemicals will control scaling and biofouling of the cooling tower and corrosion of the circulating water piping and condenser tubes. Cooling water treatment will require the addition of a pH control agent (acid), a mineral scale dispersant

(i.e., polyacrylate polymer), corrosion inhibitors (phosphate based), and biocide (i.e., sodium hydroxide or equivalent).

Cooling tower blowdown will be discharged to the plant's wastewater sump as required to maintain the level of dissolved solids in the cooling water within acceptable ranges. Backwash water from ultra filters, reject water from the reverse osmosis unit, and wash water will also be discharged to the wastewater sump. This wastewater would then be discharged to the City of Industry sanitary sewer facilities, which tie into the LACSD facilities via a regional trunk sewer line.

Table 8.15-4 summarizes the estimated water quality of wastewater discharges from the wastewater sump to the sanitary sewer system, based on approximately 6 cycles of concentration of the cooling tower blowdown. The constituents listed below were selected based on the LACSD's Wastewater Ordinance.

Quality and quantity of industrial wastewater discharges to the LACSD's sanitary sewer system must be in compliance with an Industrial Wastewater Discharge Permit to be issued by LACSD. As shown in Table 8.15-4, the anticipated quality of wastewater discharges from WCEP would be well within the LACSD's discharge limitations. Meeting these industrial discharge limitations indicates that water quality downstream of the San Jose Creek Water Reclamation Plant will be protected. The volume of domestic sewage would be about 1,440 gallons per day, which is negligible compared to the overall volume of discharges to the LACSD's sewer system. Therefore, impacts to the wastewater system, including the ultimate water quality objectives for treated wastewater, would be less than significant.

TABLE 8.15-4
Comparison of WCEP Non-Reclaimable Waste Water and LACSD Discharge Standards

Constituent	Wastewater (mg/L)	LACSD Allowable Concentrations (mg/L)
TICH[a]	<0.009	-
pH (Ph units)	6.9	>6.0
Total Suspended Solids	<1	-
Total Dissolved Solids	619	-
Temperature (°F)	79	114
Arsenic	<0.0009	3
Cadmium (µg/L)[b]	<0.3	15
Chromium	<0.01	10
Copper	<0.006	15
Lead	<0.001	40
Mercury (µg/L)	<0.03	2
Nickel	<0.018	12
Silver (µg/L)	<0.2	5
Zinc	0.077	25

[a] TICH = Total Identifiable Chlorinated Hydrocarbons, which include such pesticides as aldrin, dieldrin, chlordane, DDT, endrin, hexachlorocyclohexane, toxaphene, and PCBs.

[b] µg/L = micrograms per liter.

Source: LACSD, 2005a.

8.15.2.2.2 Domestic Wastewater Disposal

Domestic wastewater generated at the WCEP, estimated at 1-gpm average and 2-gpm maximum, will also be discharged to the LACSD sanitary sewer system. This volume would be considered a *de minimus* increase in demand on the sewer system, not measurable within the overall dry weather flow and well within the treatment, conveyance, and disposal capacities of LACSD's system.

8.15.2.3 Stormwater Runoff and Drainage

The existing site is paved, and site drainage currently flows to a drain located in the facility parking lot. The drain empties into the storm drainage system, which eventually drains to the San Jose Creek (under jurisdiction of the U.S. Army Corps of Engineers) located north of the project site. Drainage on the site will include two discharge points, one to the northeastern corner and one to the south of the property boundaries. Stormwater management practices will follow the California Storm Water Quality Association (CASQA) California Storm Water BMP Handbook, Sections TC-20 and TC-22. Anticipated storm runoff is estimated at approximately 28 cfs per 60 minutes under a 25 year storm event. Connection to the storm drainage system is regulated by the Los Angeles County DPW. Appendix 7B contains drawings that show topography before and after construction and a drainage plan. Appendix 7C contains stormwater calculations.

At completion of the WCEP, on-site drainage will be accomplished through gravity flow. The surface grading will direct stormwater runoff to the stormwater drains via overland flow at a minimum slope of 0.5 percent. The main plant complex area will be graded with moderate slopes (1 percent minimum preferred) for effective drainage.

Miscellaneous general plant drainage will consist of sample drainage, equipment leakage, and drainage from facility containment areas. Water from these areas will be collected in systems of floor drains, sumps, and pipes within the WCEP and discharged to an oil-water separator. The separator will be an underground or aboveground vault with baffles to collect oils and solids. Wastewater will be routed through the baffles, allowing oils to rise to the surface and solids to settle to the bottom. The vault will be pumped out periodically. Oils will be removed using oil-absorbent pillows or other acceptable methods and transported to an approved disposal facility. After passing through the oil-water separator, oil-free waste water will be recycled to the cooling tower basin.

Stormwater falling outside of hazardous material containment areas (e.g., on plant roads and other paved or gravel surfaced areas and landscaped areas) will be collected by the existing system of catch basins for discharge to the San Jose Creek flood control channel.

Hazardous material containment areas (those areas with walls or dams built to contain spillage) will use an independent collection and treatment system. This system is separate from the stormwater collection and treatment system described in the prior paragraph.

8.15.2.4 Construction Effects on Water Quality

The site grading and drainage will be designed to comply with all applicable LORS The general site grading will establish a working surface for construction and plant operating areas, and will provide positive drainage from buildings and structures, and adequate ground coverage for subsurface utilities.

During construction, approximately 15 acres of land associated with the plant site and other facilities will be disturbed (including construction laydown and worker parking areas). Surface water impacts are anticipated to be related primarily to short-term construction activity and consist of increased turbidity due to erosion of newly excavated or placed soils. Activities such as grading can potentially destroy habitat and increase rates of erosion during construction. In addition, construction materials could contaminate runoff or groundwater if not properly stored and used. Compliance with engineering and construction specifications, following approved grading and drainage plans, and adhering to proper material handling procedures will ensure effective mitigation of these short-term impacts. BMPs for erosion control will be implemented. Additionally, erosion and sediment controls, surface water pollution prevention measures, and other BMPs will be developed and implemented for both construction and operational phases. These plans will be prepared in accordance with the NPDES construction permit issues by the SWRCB and local agency requirements.

To qualify for the NPDES statewide General Permit for Storm Water Discharges Associated with Construction Activity (General Construction Permit), WCEP will be required to develop a Storm Water Pollution Prevention Plan (SWPPP) prior to construction, to prevent the off-site migration of sediment and other pollutants and to reduce the effects of runoff from the construction site to offsite areas. Successful implementation of the SWPPP will ensure that construction impacts to water resources are mitigated to a less-than-significant level.

Very little hydrostatic test water will be needed for the natural gas connecting line because it extends only for a few feet. It will be chemically analyzed for contaminants and discharged into a dewatering structure consisting of hay bales, geotextile fabric, and silt fencing. The discharged water will filter through the hay bales and silt fence before it is discharged. These measures will be 90 percent or more effective in removing any sediments and other solids that may accumulate in the test water before discharge. The water will be discharged into the LACSD sanitary sewer system under the appropriate permit. None of the project discharges will thus affect waters of the state and a report of waste discharge is not required. Approximately 20,000 gallons of potable water will be used for hydrotesting power plant piping.

The construction phase of WCEP will require no groundwater removal. Stormwater is expected to result in only several days of dewatering during construction, and this will be done in accordance with best management practices. With an unusual storm year, this number could be as many as 5 to 10 days. Under a worst-case storm scenario where all of the stormwater would be collected in excavations, the water collected from a 10-year, 24-hour storm could be pumped out over 24-hours at a 50-gpm rate. For the WCEP project, this potential for site dewatering will only occur over a single rain season. Therefore, the maximum daily dewatering discharge would be 72,000 gallons and, for the sake of providing a quantity, an extreme worst-case annual maximum of 0.72 million gallons, based on the worst-case daily amount for 10 days in a year.

Water used for dust control and soil compaction during construction will not result in discharge. During the construction period, sanitary waste will be collected in portable toilets (no discharge) supplied by a licensed contractor for collection and disposal of sanitary

wastes at an appropriate receiving facility. Equipment wash water will be collected and disposed of offsite.

8.15.2.5 Groundwater

Subsurface testing at the project site has shown that groundwater levels are approximately 20 to 30 feet below surface. The WCEP would make no direct use of groundwater resources and would have no effect on groundwater quantity or quality

8.15.3 Cumulative Impacts

The WCEP will not cause or contribute to cumulative impacts on water resources. Good engineering practices and BMPs will be used in the project design and operation. Stormwater discharge will adhere to a SWPPP and local agency water quality standards. No significant impacts to surface water or groundwater quality are expected during construction or operation of the project. The project will contribute to water conservation by making use of reclaimed water for power plant cooling, with high cycles of concentration.

8.15.4 Proposed Mitigation Measures

This section presents mitigation measures proposed to reduce impacts to water resources in areas affected by the project.

- Implement BMPs designed to minimize soil erosion and sediment transport during construction of the plant site and project corridor features. Design appropriate erosion and sediment controls for slopes, catch basins, culverts, stream channels, and other areas prone to erosion.
- Conduct operations at the plant site in accordance with the USEPA's Storm Water Phase I Final Rule (for construction activities disturbing 1 acre or more). Design and implement the BMPs to prevent or control pollutants potentially associated with the operation of the plant from entering stormwater sewers.
- Perform refueling and maintenance of mobile construction equipment only in designated lined and/or bermed areas located away from stream channels. Prepare and implement spill contingency plans in areas where they are appropriate.
- During construction of pipelines implement BMPs to control soil erosion.
- Prepare and submit a Title 22 Engineer's Report to the California DHS and LARWQCB to ensure safe use of recycled water for the cooling water. Adhere to Reclamation Requirements issued by the LARWQCB.
- Prepare and submit an SWPPP to ensure quality of discharged stormwater. Obtain concurrence with the LARWQCB for the SWPPP.

The mitigation measures proposed are prescribed by stormwater and erosion control management programs mandated under the NPDES permitting system. These programs have been in place for a number of years and the prescribed measures have proven effective. Under the General NPDES Permit for Construction, for example, various specific measures are prescribed, and a program of monitoring is required. The programs are at least 90

percent effective, have been in place for a number of years, as mandated by the CWA, and have proven effective.

8.15.5 Applicable Laws, Ordinances, Regulations, and Standards

Federal, state, and local LORS applicable to water resources aspects of the WCEP are discussed in this section and summarized in Table 8.15-5.

TABLE 8.15-5
Laws, Ordinances, Regulations, and Standards Applicable to WCEP Water Resources

LORS	Applicability	How Conformance Is Achieved
Federal		
CWA/Water Pollution Control Act. P.L. 92-500, 1972; amended by Water Quality Act of 1987, P.L. 100-4 (33 USC 466 et seq.); NPDES (CWA, Section 402); Toxic and Pretreatment Effluent Standards (CWA, Section 307)	Prohibits discharge of pollutants to receiving waters unless the discharge is in compliance with an NPDES permit. Applies to all wastewater discharges, including industrial wastewater, stormwater runoff and dewatering, during both construction and operation. Sets forth pretreatment requirements for the industrial discharges into publicly-owned treatment works.	Compliance with state implementation requirements as indicated by the LARWQCB (see below under State).
State		
Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code, Sections 13000-14050), including Basin Plan	Implements and enforces the federal NPDES permit program through conformance with beneficial uses and water quality objectives in the Basin Plan as well as conformance with any applicable Total Maximum Daily Load requirements and industrial pretreatment requirements.	Operational discharges of industrial and sanitary wastewater streams are conveyed to the LACSD's sewer system for treatment and disposal; discharges are regulated under an existing NPDES permit. Stormwater runoff is conveyed through the City of Industry and LACSD's stormwater sewer system into San Jose Creek; discharges are regulated under an existing NPDES permit for municipal stormwater.
California Water Code §13550 et seq. and State Water Resources Control Board Resolution 75-58	Encourages the conservation of water resources and the maximum reuse of wastewater, particularly in areas where water is in short supply.	California Water Code §13550 et seq. provides that use of potable water for specified uses is a prohibited waste of water resources when recycled water is currently available, as defined in that section. The WCEP proposes to use recycled water for process and cooling water and is, therefore, in conformance with these code sections. Res. No. 75-58 applies only to use of inland surface waters for cooling; but because the WCEP would use recycled water for cooling, this does not apply to this project.
Title 22 of the CCR (Division 4, Chapter 15)	Sets forth requirements for treatment and quality of recycled water for cooling.	Recycled water will be treated with a 90-minute contact time using sodium hypochlorite solution, in conformance with Title 22 requirements.

TABLE 8.15-5
Laws, Ordinances, Regulations, and Standards Applicable to WCEP Water Resources

LORS	Applicability	How Conformance Is Achieved
Local		
Los Angeles County Sanitation District, Wastewater Ordinance, Section 401	Regulates all discharges to the County's sewer system, including industrial wastewater.	The Applicant will comply with Section 401 for all discharges to the sewer system and will obtain a Permit for Industrial Wastewater Discharge. The Applicant will comply with all permit conditions, including the following: discharge limitations, pretreatment requirements, peak flow restrictions, dewatering discharges, payment of fees, and monitoring and reporting requirements.

8.15.5.1 Federal Laws, Ordinances, Regulations, and Standards

Federal Clean Water Act. The federal CWA and subsequent amendments, under the enforcement authority of the USEPA, was established "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." The CWA established the NPDES program to protect water quality of receiving waters. Under the CWA, Section 402, discharge of pollutants to receiving waters is prohibited unless the discharge is in compliance with an NPDES permit. In California, the USEPA has determined that the SWRCB and its nine RWQCBs have sufficient authority under state law to administer and enforce the federal NPDES permitting program. Surface and ground water in the project vicinity are under the jurisdiction of the LARWQCB. Discharges of wastewater from WCEP would flow to the LACSD's San Jose Creek WRP, which operates under an NPDES permit issued by the LARWQCB. Stormwater from WCEP would flow to the City of Industry's and/or LACSD's storm collection system. Stormwater flows primarily into San Jose Creek Municipal storm drainage is regulated under an existing NPDES permit.

In addition, Section 307 of the CWA requires pretreatment of industrial discharges into publicly-owned treatment works. Industrial discharges from the WCEP would be subject to these requirements, as implemented and enforced by the LACSD, Wastewater Ordinance, Part IV – Industrial Wastewaters. Because the industrial pretreatment standards would be enforced by the County Sanitation District, they are discussed below under local regulations.

8.15.5.2 State

Porter-Cologne Water Quality Control Act and the Basin Plan. The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) governs the regulation of water quality within California and establishes the authority of the SWRCB and the nine Regional Boards. The LARWQCB established regulatory standards and objectives for water quality in the Bay in the Basin Plan (LARWQCB, 1994). The Basin Plan identifies existing and potential beneficial uses and provides numerical and narrative water quality objectives designed to protect those uses.

Clean Water Act, Section 303d, Impaired Water Bodies. In accordance with Section 303(d) of the CWA, each state must present the USEPA with a list of impaired water bodies. The City of Industry is located within the San Gabriel River Watershed. The SWRCB has listed

San Jose Creek and the San Gabriel River as *impaired water bodies* for certain specified contaminants. Impaired waters are defined as those that do not meet water quality standards, even after point sources of pollution have implemented pollution control technology. The law requires the development of action plans, known as Total Maximum Daily Loads (TMDL), to improve water quality of impaired water bodies. The TMDL is a calculation of the total amount of a pollutant that a water body can receive and still meet water quality objectives for a pollutant identified as causing impairment. The TMDL report allocates permissible quantities for discharge from specific sources. The pollutants that have been identified as causing impairment in San Jose Creek include algae and high chloroform count In the San Gabriel River, pollutants identified as causing impairment include algae, high chloroform county, toxicity, copper (dissolved), lead, and zinc (dissolved).

Industrial Stormwater NPDES Permit. The SWRCB implements regulations under the federal CWA requiring that point source discharges (a point source discharge of stormwater is a flow of rainfall runoff in some kind of discrete conveyance such as a pipe, ditch, channel, or swale) of stormwater associated with industrial activity that discharge either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit (SWRCB, 1997). The SWRCB has issued Waste Discharge Requirements for discharges of stormwater associated with industrial activities, such as the proposed project, and excluding construction activities. After the completion of construction, the proposed site would be graded to direct stormwater runoff to the stormwater sewer system.

Construction Stormwater NPDES Permit. The federal CWA effectively prohibits discharges of stormwater from construction sites unless the discharge is in compliance with an NPDES permit. The SWRCB is the permitting authority in California and has adopted a General Construction Permit (SWRCB, 1999a) that applies to projects resulting in one or more acres of soil disturbance. The proposed project would result in disturbance of more than one acre of soil. Therefore, the project will require the preparation of a Storm Water Pollution Prevention Plan that would specify site management activities to be implemented during site development. These management activities will include construction stormwater BMPs, dewatering runoff controls, and construction equipment decontamination. Stormwater pollution prevention measures during construction will include but not be limited to those established by the *Stormwater Best Management Practice Handbook for Construction* (CASQA, 2003). Dewatering controls will include but may not be limited to containing dewatered water in a baker tank and installing erosion control measures to contain sediment from accidental spills or releases of dewatered water. Construction equipment will be cleaned by dry or wet methods as needed to prevent tracking soils offsite.

California Water Code Sections 13550, 13551, 461, and SWRCB Resolution No. 75-58. These water code sections and policy statements encourage the conservation of water resources and the maximum reuse of wastewater, particularly in areas where water is in short supply. California Water Code 13550, et seq., provides that use of potable water for specified uses is a prohibited waste of water resources when recycled water is available. The WCEP proposes to use recycled water for process and cooling water. SWRCB 75-58 sets forth the state's water quality control policy on the use and disposal of inland waters used for power plant cooling; this resolution applies only to uses of inland surface waters for

cooling water. The WCEP proposes to use recycled water, not inland surface waters. Therefore, this resolution does not apply to the WCEP.

Title 22 Code of Regulations, Sections 60313 to 60316. The California DHS established water quality standards and treatment criteria for water recycling under Title 22, Chapter 4 of the CCR. Title 22 also specifies the reliability and redundancy for each recycled water treatment and use operation. For recycled wastewater piping, DHS has requirements for preventing backflow of recycled water into the potable water supply system and for avoiding cross-connection between recycled and potable water supply systems.

There will be no cross-connections of the WCEP recycled water and potable water systems. The WCEP will also provide sufficient equipment labels, signs, and notice for those pipelines carrying recycled water.

Walnut Creek Energy, LLC will prepare an Engineer's report in accordance with Title 22, Section 60323, which will include the following information:

- A detailed description of the intended use of the recycled water.
- Plans and specifications of the recycled water system.
- Methods to be used to ensure that the installation and operation of the dual-plumbed system will not result in cross-connections between the recycled water piping system and the potable water piping system. All recycled wastewater lines and valve boxes will be clearly identified to distinguish between recycled wastewater and potable water system.

8.15.5.3 Local Laws, Ordinances, Regulations, and Standards

County of Los Angeles, Wastewater Ordinance. The CWA requires that publicly-owned treatment works regulate the discharge of industrial wastes into a sewer system subject to an NPDES permit. Accordingly, the County of Los Angeles has adopted detailed permit requirements for industrial dischargers. The discharge of any wastewater to the County's sewer system would be subject to the requirements of the County's Wastewater Ordinance, which regulates the quantity and quality of discharges to the sewer system. Section 406 of the Wastewater Ordinance provides additional industrial waste discharge limits.

In accordance with the Wastewater Ordinance, the WCEP would be required to obtain an Industrial Wastewater Discharge Permit (IWDP) from the LA County Sanitation District. The IWDP would specify the detailed project-specific requirements applicable to the WCEP, including pretreatment standards, flow restrictions, and sampling, monitoring, and reporting requirements. The permit would be issued for a fixed time period, not to exceed 5 years, for Significant Industrial Users. As a condition of approval for an Industrial Waste Discharge Permit, the company may be required to participate in the District's Self Monitoring Program (SMP). The SMP would require the company to furnish chemical analysis of its industrial discharge on a regular basis. The type and frequency of the testing is determined on a case-by-case basis, and are included in the permit requirements.

Pretreatment systems are required by the LACSD to reduce pollutants to levels specified by local and federal limitations. The Sanitation Districts provides minimum requirements for pretreatment that consists of a three-compartment, gravity separation interceptor (clarifier) and sampling box, with a minimum detention time of 30 minutes, and a minimum capacity of

500 gallons. Additional required pretreatment facilities may include pH neutralization, clarification, flocculation, dewatering, or other more extensive facilities (LACSD, 2005b).

Standard Urban Stormwater Mitigation Plan – Los Angeles County Department of Public Works. On December 13, 2001, LARWQCB adopted Order No. 01-182. This Order is the NPDES Permit (NPDES No. CAS004001) for municipal stormwater and urban runoff discharges within the County of Los Angeles.

As adopted in December 2001, the requirements of Order No. 01-182 cover 84 cities, including the City of Industry, and the unincorporated areas of Los Angeles County. Under this, a Stormwater Quality Management Program (SQMP) has been implemented that addresses a number of different programs to reduce pollutants in stormwater and urban runoff. One of the programs implemented under the SQMP is the Development Planning Program. The Development and Planning Program requires that certain new development or redevelopment projects comply with the Standard Urban Stormwater Mitigation Plan (SUSMP), which outlines the necessary BMPs that should be incorporated into design plans.

The WCEP falls into the category of "redevelopment" under the SUSMP, and is thus required to follow the guidelines outlined in the Plan. It is at the discretion of the Los Angeles County DPW if a SUSMP is required. Additionally, a Water Quality Agreement, required by the Los Angeles County Flood Control District for commercial connections to the flood control system, is issued by the Los Angeles County DPW.

County of Los Angeles, County Code. Title 12 (Environmental Protection) of the Los Angeles County Code regulates the discharge of water to the storm system. Title 12 aims to protect the beneficial uses, marine habitats, and ecosystems of receiving waters that are carried by stormwater and non-stormwater discharges. This applies to all stormwater and/or runoff to the storm drain system and/or receiving waters within any unincorporated area covered by a NPDES municipal stormwater permit.

Section 12.80.460 of the County code lists prohibited discharges from industrial or commercial activities, unless the discharger complies with an NPDES permit.

Rowland Water District. For reclaimed water service, the WCEP will be required to submit an application of service (Service Agreement) to the Rowland Water District. The Service Agreement will stipulate the conditions of use of the reclaimed water such as price, operation criteria, and water quality parameters.

California Energy Commission Policy. The CEC adopted a policy in the 2003 Integrated Energy Policy Report that promotes the use of reclaimed water in order to minimize the consumptive use of fresh water for power plant cooling. That policy also encourages the use of a zero liquid discharge (ZLD) system to reduce water use. Since the WCEP is already using reclaimed water, no savings of fresh water would result with the implementation of a ZLD system. In addition to use of reclaimed water, the WCEP is using a high number (6) of cycles of concentration, which will also minimize its total use of reclaimed water. Use of a ZLD system would result in a small reduction in reclaimed water use, but at prohibitively high monetary cost. This cost is neither warranted nor required by the CEC policy.

8.15.6 Permits Required, Permit Schedule, Agency Contacts.

A summary of required permits and agency contacts is provided in Table 8.15-6.

TABLE 8.15-6
Water Quality Permits Required for WCEP

Permit	Schedule	Agency
Industrial Wastewater Discharge Permit	Minimum of 90 days prior to the commencement of the discharge	Los Angeles County Sanitation District PO Box 4998 Whittier, CA 90607-4998 Contact: James F. Stahl, Chief Engineer and General Manager (562) 699-7411
Water Quality Agreement/SUSMP	This occurs during the submittal phase for the design plans to the county for agency review.	Los Angeles County Department of Public Works 900 S. Fremont Avenue Alhambra, CA 91803 (626) 458-3517
Use of the National Pollution Discharge Elimination System General Permit for Construction	Submit Notice of Intent to use the permit at least 30 days in advance of construction, prepare SWPPP for local review	Los Angeles Regional Water Quality Control Board 320 West 4th Street. Los Angeles, CA 90013-2343 Contact: Xavier Swamikannu (213) 620-2094
User Agreement for Recycled Water		City of Industry 15651 East Stafford St. City of Industry, CA 91744 Contact: John Ballas, City Engineer
Water Quality Agreement		City of Industry 15651 East Stafford St. City of Industry, CA 91744 Contact: John Ballas, City Engineer

8.15.7 References Cited

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